

# Algebra/Topology Seminar

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## ASPHERICAL CONE-OFFS OF HYPERBOLIC MANIFOLDS WITH BOUNDARY

Thursday, November 13, 2025  
3:00 p.m. in Massry B010

ABSTRACT. We give geometric conditions which imply that the space obtained by coning off the boundary components of a hyperbolic manifold  $M$  is negatively curved. Moreover, we give explicit geometric conditions under which a locally convex subset of  $M$  gives rise to a locally convex subset of the cone-off. Group-theoretically, we conclude that the fundamental group of the cone-off is hyperbolic of cohomological dimension  $n$  and the  $\pi_1$ -image of the coned-off locally convex subset is a quasi-convex subgroup. This is joint work with Jason Manning.